INDEX TO AUTHORS

A

Adams, Elijah. See *Roberts, Adams, and White,* 379

Appel, Muriel. See *Williamson and Appel,* 769

Armstrong, Marvin D., and **Binkley, Francis.** On the failure of DL-homoserine to support growth on a methionine-deficient diet, 889

Avakian, Souren. See *Martin, Avakian, and Moss,* 495

B

Babb, Virginia. See *Colio and Babb,* 405

Barker, H. A. See *Stadtman and Barker,* 1039

Barry, Guy T., Sato, Yoshio, and **Craig, Lyman C.** Distribution studies. X. Attainment of equilibrium, 209

—, —, and —. XII. Purity of crystalline penicillins, 221

—. See *Sato, Barry, and Craig,* 217

Beiler, J. M., and **Martin, Gustav J.** Inhibition of hyaluronidase action by derivatives of hesperidin, 31

Belinskey, Carol. See *Carter, Belinskey, Clark, Flynn, Lytle, McCasland, and Robbins,* 415

Bernheim, Frederick, Bernheim, Mary L. C., and **Wilbur, Karl M.** The reaction between thiobarbituric acid and the oxidation products of certain lipides, 257

Bernheim, Mary L. C. See *Bernheim, Bernheim, and Wilbur,* 257

Berson, Bella Z. See *Burch, Lowry, Bessey, and Berson,* 791

Bessey, Otto A. See *Burch, Lowry, Bessey, and Berson,* 791

Beyer, G. Thannhauser. See *Dounce and Beyer,* 859

—. See *Dounce, Rothstein, Beyer, Meier, and Freer,* 361

Biely, Jacob. See *Halpern and Biely,* 817

Binkley, Francis. Birefringence of flow of preparations of myosin, 385

—. See *Armstrong and Binkley,* 889

Bird, H. R., Rubin, Max, and **Groschke, A. C.** A chick growth factor in cow manure. VII. Its stability and solubility, 611

Bischoff, Fritz, and **Pilhorn, Harry R.** The state and distribution of steroid hormones in biologic systems. III. Solubilities of testosterone, progesterone, and α-estradiol in aqueous salt and protein solution and in serum, 663

Bodansky, Oscar. The inhibitory effects of DL-alanine, L-glutamic acid, L-lysine, and L-histidine on the activity of intestinal, bone, and kidney phosphatases, 465

Borsook, Henry, Deasy, Clara L., Haagen-Smit, A. J., Keighley, Geoffrey, and **Lowy, Peter H.** Isolation of a peptide in guinea pig liver homogenate and its turnover of leucine, 1041

Boyd, M. John, Logan, Milan A., and **Tytell, Alfred A.** A microbiological procedure for the assay of amino acids with *Clostridium perfringens* (*welchii*) BP6K, 1027

—, —, and —. The growth requirements of *Clostridium perfringens* (*welchii*) BP6K, 1013

Brickson, W. L. See *Hankes, Henderson, Brickson, and Elvehjem,* 873

Brown, Betty. See *Daniel, Scott, Heuser, and Norris,* 71

Brown, George Bosworth, Petermann, Mary L., and **Furst, Sidney S.** The incorporation of adenine into pentose and desoxypentose nucleic acids, 1043

Bubl, Edward C., and **Butts, Joseph S.** The utilization of D-tyrosine for growth in the rat, 637

Burch, Helen B., Lowry, Oliver H., Bessey, Otto A., and **Berson, Bella Z.** The determination of iron in small volumes of blood serum, 791

Burris, R. H. See *Olson, Fager, Burris, and Elvehjem*, 319

Butts, Joseph S. See *Bubl and Butts*, 637

C

Carter, Herbert E., Belinskey, Carol, Clark, R. K., Jr., Flynn, Edwin H., Lytle, Betty, McCasland, G. E., and **Robbins, Mary.** Oxidation of inositol by *Acetobacter suboxydans*, 415

—and **Loo, Y. H.** Oxidation of hydroxy-L-proline by periodate, 723

Chaikoff, I. L., Lerner, S. R., Entenman, C., and **Dauben, W. G.** On the conversion of palmitic acid labeled with radioactive carbon to glucose by the alloxan-diabetic rat, 1045

—. See *Wolff and Chaikoff*, 555

Chandler, Joseph P. See *du Vigneaud, Moyer, and Chandler*, 477

Chanutin, Alfred. See *Gjessing, Ludewig, and Chanutin*, 683

Chargaff, Erwin. See *Magasanik and Chargaff*, 173

Cheldelin, Vernon H. See *King and Cheldelin*, 273

Clark, R. K., Jr. See *Carter, Belinskey, Clark, Flynn, Lytle, McCasland, and Robbins*, 415

Cohen, Philip P., and **Grisolia, Santiago.** The intermediate rôle of carbamyl-L-glutamic acid in citrulline synthesis, 389

—. See *McGilvery and Cohen*, 813

Cohen, Seymour S. The synthesis of bacterial viruses. I. The synthesis of nucleic acid and protein in *Escherichia coli* B infected with T_2r^+ bacteriophage, 281

—. II. The origin of the phosphorus found in the desoxyribonucleic acids of the T_2 and T_4 bacteriophages, 295

Colio, Lloyd G., and **Babb, Virginia.** Study of a new stimulatory growth factor, 405

Comar, C. L., Davis, George K., and **Singer, Leon.** The fate of radioactive copper administered to the bovine, 905

Craig, Lyman C. See *Barry, Sato, and Craig*, 209, 221

—. See *Sato, Barry, and Craig*, 217

Critchfield, Frances H. See *Shaffer and Critchfield*, 489

D

Damron, Charlotte M. See *Roe, Mills, Oesterling, and Damron*, 201

Daniel, Louise J., Scott, M. L., Heuser, G. F., and **Norris, L. C.** Further studies of unidentified factors required in the nutrition of *Lactobacillus casei*, 71

Dauben, W. G. See *Chaikoff, Lerner, Entenman, and Dauben*, 1045

Davis, George K. See *Comar, Davis, and Singer*, 905

Deasy, Clara L. See *Borsook, Deasy, Haagen-Smit, Keighley, and Lowy*, 1041

Dorfman, Albert, Ott, Melvin L., and **Whitney, Richard.** The hyaluronidase inhibitor of human blood, 621

Dounce, Alexander L., and **Beyer, G. Thannhauser.** The arginase activity of isolated cell nuclei, 859

—, **Rothstein, Aser, Beyer, G. Thannhauser, Meier, Rebecca,** and **Freer, Richard M.** A detailed procedure for the preparation of highly purified adenosine triphosphate, 361

E

Elion, Gertrude B. See *Hitchings, Elion, and VanderWerff*, 1037

—. See *Hitchings, Elion, VanderWerff, and Falco*, 765

Elvehjem, C. A. See *Hankes, Henderson, Brickson, and Elvehjem* 873

—. See *Olson, Fager, Burris, and Elvehjem*, 319

Engel, Frank L., Pentz, E. Irene, and **Engel, Mildred G.** On the use of the nephrectomized rat for the study of rapid changes in nitrogen metabolism, 99

Engel, Mildred G. See *Engel, Pentz, and Engel*, 99
Entenman, C. See *Chaikoff, Lerner, Entenman, and Dauben*, 1045

F

Fager, E. E. C. See *Olson, Fager, Burris, and Elvehjem*, 319
Falco, Elvira A. See *Hitchings, Elion, VanderWerff, and Falco* 765
Feld, Emily A. See *Nachmansohn, Rothenberg, and Feld*, 247
Ferger, Martha F., and **du Vigneaud, Vincent.** The microbial growth inhibition produced by optical isomers of β-2-thienylalanine, 241
Fling, Marguerite. See *Kobayashi, Fling, and Fox*, 391
Floyd, Curtis S. See *Gjessing, Ludewig, and Chanutin*, 683
Flynn, Edwin H. See *Carter, Belinskey, Clark, Flynn, Lytle, McCasland, and Robbins*, 415
Folch, Jordi. The chemical structure of phosphatidyl serine, 439
Foote, Murray W. See *Little, Sproston, and Foote*, 335
Fox, Sidney W. See *Kobayashi, Fling, and Fox*, 391
Fraenkel-Conrat, Heinz, and **Olcott, Harold S.** Reaction of formaldehyde with proteins. VI. Cross-linking of amino groups with phenol, imidazole, or indole groups, 827
Frantz, Ivan D., Jr., Zamecnik, Paul C., Reese, J. W., and **Stephenson, Mary L.** The effect of dinitrophenol on the incorporation of alanine labeled with radioactive carbon into the proteins of slices of normal and malignant rat liver, 773
Freer, Richard M. See *Dounce, Rothstein, Beyer, Meier, and Freer*, 361
Fried, Josef. See *Titus and Fried*, 57
Friedgood, Harry B., Garst, Josephine B., and **Haagen-Smit, A. J.** A new method for the separation of androgens from estrogens and for the partition of estriol from the estrone-estradiol fraction. With special reference to the identification and quantitative microdetermination of estrogens by ultraviolet absorption spectrophotometry, 523
Friedkin, Morris, and **Lehninger, Albert L.** Phosphorylation coupled to electron transport between dihydrodiphosphopyridine nucleotide and oxygen, 757
Fruton, Joseph S. See *Gutmann and Fruton*, 851
—. See *Simmonds and Fruton*, 705
Furst, Sidney S. See *Brown, Petermann, and Furst*, 1043

G

Gallant, Dorothy Leaf. See *Toennies and Gallant*, 451
Garber, M. J. See *Schweigert, German, and Garber*, 383
Garst, Josephine B. See *Friedgood, Garst, and Haagen-Smit*, 523
Genest, R. N. See *Saunders, Siu, and Genest*, 697
German, H. L. See *Schweigert, German, and Garber*, 383
Gjessing, Erland C., Ludewig, Stephan, and **Chanutin, Alfred.** Fractionation, electrophoresis, and chemical studies of proteins in sera of control and injured goats, 683
Goodwin, Mari P. See *Haines, Johnson, Goodwin, and Kuizenga*, 925
Goranson, E. S., Hamilton, J. E., and **Haist, R. E.** Changes in phosphate and carbohydrate metabolism in shock, 1
Grant, W. Morton. Observations on blood acetol after administration of acetol, methyl alcohol, and formaldehyde to rabbits, 93
Green, Arda Alden. See *Rapport, Green, and Page*, 735
Greenberg, Leon A. See *Lester and Greenberg*, 903
Greep, Roy O. See *Perlmutter and Greep*, 915
Grinstein, Moisés, Kamen, Martin D., and **Moore, Carl V.** Observation on the utilization of glycine in the biosynthesis of hemoglobin, 767

Grisolia, Santiago. See *Cohen and Grisolia*, 389
—. See *Mehler, Kornberg, Grisolia, and Ochoa*, 961
Groschke, A. C. See *Bird, Rubin, and Groschke*, 611
Gutmann, Helmut R., and **Fruton, Joseph S.** On the proteolytic enzymes of animal tissues. VIII. An intracellular enzyme related to chymotrypsin, 851

H

Haagen-Smit, A. J. See *Borsook, Deasy, Haagen-Smit, Keighley, and Lowy*, 1041
—. See *Friedgood, Garst, and Haagen-Smit*, 523
Haines, William J., Johnson, Richard H., Goodwin, Mari P., and **Kuizenga, Marvin H.** Biochemical studies on hog testicular extract. I. Isolation and identification of 5-pregnen-3(β)-ol-20-one, 925
Haist, R. E. See *Goranson, Hamilton, and Haist*, 1
Halpern, George R., and **Biely, Jacob.** The utilization of vitamin A in various carriers, 817
Hamilton, J. E. See *Goranson, Hamilton, and Haist*, 1
Hankes, L. V., Henderson, L. M., Brickson, W. L., and **Elvehjem, C. A.** Effect of amino acids on the growth of rats on niacin-tryptophan-deficient rations, 873
Harding, W. M., and **Shive, William.** Biochemical transformations as determined by competitive analogue-metabolite growth inhibitions. VIII. An interrelationship of methionine and leucine, 743
Hauge, S. M. See *Novak and Hauge*, 235, 647
Hegsted, D. Mark, and **Lipmann, Fritz.** The pantothenic acid content of coenzyme A by chick assay, 89
—. See *Ling, Hegsted, and Stare*, 803
Henderson, L. M. See *Hankes, Henderson, Brickson, and Elvehjem*, 873
Heuser, G. F. See *Daniel, Scott, Heuser, and Norris*, 71
Hitchings, George H., Elion, Gertrude B., and **VanderWerff, Henry.** The limitations of inhibition analysis, 1037
—, —, —, and **Falco, Elvira A.** Pyrimidine derivatives as antagonists of pteroylglutamic acid, 765
Hoberman, Henry D. See *White, Hoberman, and Szego*, 1049
Holzman, George, and **Niemann, Carl.** A spectrophotometric study of blood group A-specific substance isolated from hog gastric mucosa, 305
Horowitz, N. H., and **Srb, Adrian M.** Growth inhibition of *Neurospora* by canavanine, and its reversal, 371
Houlahan, Mary B. See *Mitchell and Houlahan*, 883
Huebner, Charles F., and **Jacobs, Walter A.** The aconite alkaloids. XXI. Further oxidation studies with atisine and isoatisine, 1001

I

Irvin, Elinor Moore. See *Irvin and Irvin*, 577, 589
Irvin, J. Logan, and **Irvin Elinor Moore.** Apparent dissociation exponents of quinine, pamaquine, and a quinolylpiperidylcarbinol; application of an extended pH scale, 577
— and —. A fluorometric method for the determination of pamaquine, SN-13276, and SN-3294, 589

J

Jacobs, Walter A. See *Huebner and Jacobs*, 1001
Jensen, Robert, Snellman, Olle, and **Sylvén, Bengt.** On the inhomogeneity of commercial heparin preparations from the physicochemical point of view, 265
Johnson, Marvin J. See *Peterson and Johnson*, 775
Johnson, Richard H. See *Haines, Johnson, Goodwin, and Kuizenga*, 925
Jones, Hardin B. See *Reid and Jones*, 427

Junqueira, Plinio B., and **Schweigert, B. S.** Further studies on the rôle of vitamin B_6 in the metabolism of tryptophan by the rat, 605

K

Kalckar, Herman M., Kjeldgaard, Niels Ole, and **Klenow, Hans.** Inhibition of xanthine oxidase and related enzymes by 6-pteridyl aldehyde, 771

Kamen, Martin D. See *Grinstein, Kamen, and Moore,* 767

Kaplan, Nathan O., and **Lipmann, Fritz.** The assay and distribution of coenzyme A, 37

Keighley, Geoffrey. See *Borsook, Deasy, Haagen-Smit, Keighley, and Lowy,* 1041

Kibrick, Andre C. A polariscopic study of glutamic acid and pyrrolidonecarboxylic acid, 845

Kielley, W. Wayne, and **Meyerhof, Otto.** A new magnesium-activated adenosinetriphosphatase from muscle, 387

King, Tsoo E., and **Cheldelin, Vernon H.** Pantothenic acid studies. IV. Propionic acid and β-alanine utilization, 273

Kjeldgaard, Niels Ole. See *Kalckar, Kjeldgaard, and Klenow,* 771

Klenow, Hans. See *Kalckar, Kjeldgaard, and Klenow,* 771

Klotz, Irving M. See *Melchior, Mellody, and Klotz,* 81

Kobayashi, Yutaka, Fling, Marguerite, and **Fox, Sidney W.** Antipodal specificity in the inhibition of growth of *Escherichia coli* by amino acids, 391

Kornberg, Arthur. Nucleotide pyrophosphatase and triphosphopyridine nucleotide structure, 1051

—, **Ochoa, Severo,** and **Mehler, Alan H.** Spectrophotometric studies on the decarboxylation of β-ketoacids, 159

—. See *Mehler, Kornberg, Grisolia, and Ochoa,* 961

—. See *Ochoa, Mehler, and Kornberg,* 979

Krahl, M. E., and **Park, C. R.** The uptake of glucose by the isolated diaphragm of normal and hypophysectomized rats, 939

Kuizenga, Marvin H. See *Haines, Johnson, Goodwin, and Kuizenga,* 925

Kun, Ernest. Inhibition of the phosphorylation of glucose by meningococcal endotoxin, 761

L

Lauffer, Max A. Interaction between tobacco mosaic virus and bovine serum albumin, 481

Lehninger, Albert L. See *Friedkin and Lehninger,* 757

Lepow, Jean Papell. See *Sealock and Lepow,* 763

Lerner, S. R. See *Chaikoff, Lerner, Entenman, and Dauben,* 1045

Lester, David, and **Greenberg, Leon A.** The determination of acetone and ketone bodies, 903

Ling, Chiun-Tong, Hegsted, D. Mark, and **Stare, F. J.** The effect of pyridoxine deficiency on the tryptophan-niacin transformation in rats, 803

Ling, Kuo-Huang, and **Tung, Ta-Cheng.** The oxidative demethylation of monomethyl-L-amino acids, 643

Lipmann, Fritz. See *Hegsted and Lipmann,* 89

—. See *Kaplan and Lipmann,* 37

Little, John E., Sproston, Thomas J., and **Foote, Murray W.** Isolation and antifungal action of naturally occurring 2-methoxy-1,4-naphthoquinone, 335

Logan, Milan A. See *Boyd, Logan, and Tytell,* 1013, 1027

Loo, Y. H. See *Carter and Loo,* 723

Loring, Hubert S., Roll, Paul M., and **Pierce, John G.** A simplified procedure for the preparation of cytidylic acid and diammonium uridylate from yeast nucleic acid, 729

Lowry, Oliver H. See *Burch, Lowry, Bessey, and Berson,* 791

Lowy, Peter H. See *Borsook, Deasy, Haagen-Smit, Keighley, and Lowy*, 1041

Luck, J. Murray. See *Teresi and Luck*, 653

Ludewig, Stephan. See *Gjessing, Ludewig, and Chanutin*, 683

Lytle, Betty. See *Carter, Belinskey, Clark, Flynn, Lytle, McCasland, and Robbins*, 415

M

Magasanik, Boris, and **Chargaff, Erwin.** The stereochemistry of an enzymatic reaction: the oxidation of *l*-, *d*-, and *epi*-inositol by *Acetobacter suboxydans*, 173

Martin, Gustav J., Avakian, Souren, and **Moss, Jack.** Studies of pyridoxine displacement, 495

—. See *Beiler and Martin*, 31

Maw, George A., and **du Vigneaud, Vincent.** Dimethyl-β-propiothetin, a new methyl donor, 381

McCasland, G. E. See *Carter, Belinskey, Clark, Flynn, Lytle, McCasland, and Robbins*, 415

McGilvery, R. W., and **Cohen, Philip P.** The decarboxylation of L-phenylalanine by *Streptococcus faecalis* R, 813

Mehler, Alan H., Kornberg, Arthur, Grisolia, Santiago, and **Ochoa, Severo.** The enzymatic mechanism of oxidation-reductions between malate or isocitrate and pyruvate, 961

—. See *Kornberg, Ochoa, and Mehler*, 159

—. See *Ochoa, Mehler, and Kornberg*, 979

Meier, Rebecca. See *Dounce, Rothstein, Beyer, Meier, and Freer*, 361

Melchior, Jacklyn B., Mellody, Margaret, and **Klotz, Irving M.** The synthesis of protein by non-proliferating *Escherichia coli*, 81

Mellody, Margaret. See *Melchior, Mellody, and Klotz*, 81

Meyerhof, Otto. See *Kielley and Meyerhof*, 387

Mills, Mary B. See *Roe, Mills, Oesterling, and Damron*, 201

Minovitch, Eve. See *Sinclair*, 343, 355

Mitchell, Herschel K., and **Houlahan, Mary B.** An intermediate in the biosynthesis of lysine in *Neurospora*, 883

Moore, Carl V. See *Grinstein, Kamen, and Moore*, 767

Moss, Jack. See *Martin, Avakian, and Moss*, 495

Moyer, A. W. See *du Vigneaud, Moyer, and Chandler*, 477

Mullins, Lorin J., and **Zerahn, Karl.** The distribution of potassium isotopes in biological material, 107

N

Nachmansohn, David, Rothenberg, Mortimer A., and **Feld, Emily A.** Studies on cholinesterase. V. Kinetics of the enzyme inhibition, 247

Naganna, B., and **Narayana menon, V. K.** Erythrocyte pyrophosphatase in health and disease. I. Properties of the enzyme, 501

Narayana menon, V. K. See *Naganna and Narayana menon*, 501

Niemann, Carl. See *Holzman and Niemann*, 305

Norris, L. C. See *Daniel, Scott, Heuser, and Norris*, 71

Novak, A. F., and **Hauge, S. M.** Isolation of the unidentified growth factor (vitamin B_{12}) in distillers' dried solubles, 647

—and —. Some properties of an unidentified growth factor in distillers' dried solubles, 235

O

Ochoa, Severo. Biosynthesis of tricarboxylic acids by carbon dioxide fixation. I. The preparation and properties of oxalosuccinic acid, 115

—. III. Enzymatic mechanisms, 133

—, **Mehler, Alan H.,** and **Kornberg, Arthur.** Biosynthesis of dicarboxylic acids by carbon dioxide fixation. I.

Isolation and properties of an enzyme from pigeon liver catalyzing the reversible oxidative decarboxylation of *l*-malic acid, 979

—and **Weisz-Tabori, Erna.** Biosynthesis of tricarboxylic acids by carbon dioxide fixation. II. Oxalosuccinic carboxylase, 123

—. See *Kornberg, Ochoa, and Mehler,* 159

—. See *Mehler, Kornberg, Grisolia, and Ochoa,* 961

Oesterling, M. Jane. See *Roe, Mills, Oesterling, and Damron,* 201

Olcott, Harold S. See *Fraenkel-Conrat and Olcott,* 827

Olson, O. E., Fager, E. E. C., Burris, R. H., and **Elvehjem, C. A.** Folic acid activity in homogenates of rat liver, 319

Ott, Melvin L. See *Dorfman, Ott, and Whitney,* 621

Ott, Walther H., Rickes, Edward L., and **Wood, Thomas R.** Activity of crystalline vitamin B_{12} for chick growth, 1047

Overman, Ralph S., and **Wright, Irving S.** A new blood clotting inhibitor, 759

P

Page, Irvine H. See *Rapport, Green, and Page,* 735

Park, C. R. See *Krahl and Park,* 939

Pentz, E. Irene. See *Engel, Pentz, and Engel,* 99

Perlmutter, Martin, and **Greep, Roy O.** The uptake of glucose and the synthesis of glycogen by the isolated diaphragm of normal and pituitectomized rats, 915

Petermann, Mary L. See *Brown, Petermann, and Furst,* 1043

Peterson, Merlin H., and **Johnson, Marvin J.** The estimation of fatty acids of intermediate chain length by partition chromatography, 775

Pierce, John G. See *Loring, Roll, and Pierce,* 729

Pilhorn, Harry R. See *Bischoff and Pilhorn,* 663

Pillemer, Louis. See *Wittler and Pillemer,* 23

Pringle, A. See *Woolley and Pringle,* 327

R

Rapport, Maurice M., Green, Arda Alden, and **Page, Irvine H.** Partial purification of the vasoconstrictor in beef serum, 735

Reese, J. W. See *Frantz, Zamecnik, Reese, and Stephenson,* 773

Reid, James C., and **Jones, Hardin B.** Radioactivity distribution in the tissues of mice bearing melanosarcoma after administration of DL-tyrosine labeled with radioactive carbon, 427

Rickes, Edward L. See *Ott, Rickes, and Wood,* 1047

Robbins, Mary. See *Carter, Belinskey, Clark, Flynn, Lytle, McCasland, and Robbins,* 415

Roberts, Sidney, Adams, Elijah, and **White, Abraham.** Release of antibody by lymphoid tissue *in vitro,* 379

Roe, Joseph H., Mills, Mary B., Oesterling, M. Jane, and **Damron, Charlotte M.** The determination of diketo-*l*-gulonic acid, dehydro-*l*-ascorbic acid, and *l*-ascorbic acid in the same tissue extract by the 2,4-dinitrophenylhydrazine method, 201

Roll, Paul M. See *Loring, Roll, and Pierce,* 729

Rothenberg, Mortimer A. See *Nachmansohn, Rothenberg, and Feld,* 247

Rothstein, Aser. See *Dounce, Rothstein, Beyer, Meier, and Freer,* 361

Rubin, Max. See *Bird, Rubin, and Groschke,* 611

S

Saltzman, Abraham. Fluorophotometric method for the estimation of salicylate in blood, 399

Sato, Yoshio, Barry, Guy T., and Craig, Lyman C. Distribution studies. XI. Isolation of benzylpenicillin containing radioactive sulfur, 217
—. See *Barry, Sato, and Craig*, 209, 221
Saunders, P. R., Siu, R. G. H., and Genest, R. N. A cellulolytic enzyme preparation from *Myrothecium verrucaria*, 697
Schenker, Florence. See *Daniel, Scott, Heuser, and Norris*, 71
Schweigert, B. S., German, H. L., and Garber, M. J. Synthesis of nicotinic acid from tryptophan by the developing chick embryo, 383
—. See *Junqueira and Schweigert*, 605
Schwert, George W. A note on the application of the colorimetric ninhydrin determination to studies of enzyme kinetics, 411
Scott, M. L. See *Daniel, Scott, Heuser, and Norris*, 71
Sealock, Robert Ridgely, and Lepow, Jean Papell. Antipernicious anemia extracts and tyrosine metabolism in the scorbutic guinea pig, 763
Seegers, Walter H. See *Ware and Seegers*, 565
Shaffer, C. Boyd, and Critchfield, Frances H. Lipotropic activity and toxicity of methoxinine (oxymethionine), 489
Shive, William. See *Harding and Shive*, 743
Simmonds, Sofia. Utilization of sulfur-containing amino acids by mutant strains of *Escherichia coli*, 717
— and **Fruton, Joseph S.** The utilization of proline derivatives by mutant strains of *Escherichia coli*, 705
Sinclair, R. G. The lecithin, cephalin, and sphingomyelin content of serum. I. As indicated by the choline-phosphorus and nitrogen-phosphorus ratios, 343
—. II. As indicated by the amino nitrogen and non-diffusible phosphorus content after differential hydrolysis of the acetone-insoluble lipides, 355
Singer, Leon. See *Comar, Davis, and Singer*, 905
Singer, Thomas P. On the mechanism of enzyme inhibition by sulfhydryl reagents, 11
Siu, R. G. H. See *Saunders, Siu, and Genest*, 697
Snell, Esmond E. See *Volcani and Snell*, 893
Snellman, Olle. See *Jensen, Snellman, and Sylvén*, 265
Somogyi, Michael. Studies of arteriovenous differences in blood sugar. I. Effect of alimentary hyperglycemia on the rate of extrahepatic glucose assimilation, 189
—. II. Effect of hypoglycemia on the rate of extrahepatic glucose assimilation, 597
Sproston, Thomas J. See *Little, Sproston, and Foote*, 335
Srb, Adrian M. See *Horowitz and Srb*, 371
Stadtman, E. R., and Barker, H. A. Two new reactions producing acetyl phosphate, 1039
Stare, F. J. See *Ling, Hegsted, and Stare*, 803
Stephenson, Mary L. See *Frantz, Zamecnik, Reese, and Stephenson*, 773
Strachman, Norma. See *Bodansky*, 465
Sylvén, Bengt. See *Jensen, Snellman, and Sylvén*, 265
Szego, Clara M. See *White, Hoberman, and Szego*, 1049

T

Teresi, J. D., and Luck, J. Murray. The combination of organic anions with serum albumin. VI. Quantitative studies by equilibrium dialysis, 653
Titus, Elwood, and Fried, Josef. Counter-current distribution studies on streptomycin: the tautomerism of streptomycin, 57
Toennies, Gerrit, and Gallant, Dorothy Leaf. Bacteriometric studies. I. Factors affecting the precision of bacterial

growth responses and their measurement, 451
—. See *Winegard and Toennies*, 45
Tsuyuki, Henry. See *Sinclair*, 343, 355
Tung, Ta-Cheng. See *Ling and Tung*, 643
Tytell, Alfred A. See *Boyd, Logan, and Tytell*, 1013, 1027

V

VanderWerff, Henry. See *Hitchings, Elion, and VanderWerff*, 1037
—. See *Hitchings, Elion, VanderWerff, and Falco*, 765
du Vigneaud, Vincent, Moyer, A. W., and Chandler, Joseph P. Dimethylthetin as a biological methyl donor, 477
—. See *Ferger and du Vigneaud*, 241
—. See *Maw and du Vigneaud*, 381
Volcani, Benjamin E., and Snell, Esmond E. The effects of canavanine, arginine, and related compounds on the growth of bacteria, 893

W

Ware, Arnold G., and Seegers, Walter H. Studies on prothrombin: purification, inactivation with thrombin, and activation with thromboplastin and calcium, 565
Weisz-Tabori, Erna. See *Ochoa and Weisz-Tabori*, 123
White, Abraham, Hoberman, Henry D., and Szego, Clara M. Influence of adrenalectomy and fasting on the incorporation of isotopic nitrogen into the tissues of mice, 1049
—. See *Roberts, Adams, and White*, 379
Whiteley, Arthur H. A microvolumetric Van Slyke blood gas apparatus, 947
Whitney, Richard. See *Dorfman, Ott, and Whitney*, 621
Wilbur, Karl M. See *Bernheim, Bernheim, and Wilbur*, 257
Williamson, Martin B. The vitamin A content of fetal rats from mothers on a high cholesterol diet, 631
— **and Appel, Muriel.** The effect of sulfonamide in the diet of pregnant rats on erythropoiesis in the fetuses, 769
Winegard, Herbert M., and Toennies, Gerrit. A method for computing the effective extraneous reducers in the Folin spectrophotometric determination of cystine, 45
Wittler, Ruth G., and Pillemer, Louis. The immunochemistry of toxins and toxoids. V. The solubility of staphylococcal toxin in methanol-water mixtures under controlled conditions of pH, ionic strength, and temperature, 23
Wolff, J., and Chaikoff, I. L. Plasma inorganic iodide as a homeostatic regulator of thyroid function, 555
Wood, Thomas R. See *Ott, Rickes, and Wood*, 1047
Woolley, D. W., and Pringle, A. Some structural analogues antagonistic to pteroylglutamic acid, 327
Wright, Irving S. See *Overman and Wright*, 759

Z

Zamecnik, Paul C. See *Frantz, Zamecnik, Reese, and Stephenson*, 773
Zerahn, Karl. See *Mullins and Zerahn*, 107

INDEX TO SUBJECTS

A

Acetobacter suboxydans: Inositol isomers oxidation, rôle, *Magasanik and Chargaff*, 173
— oxidation, *Carter, Belinskey, Clark, Flynn, Lytle, McCasland, and Robbins*, 415

Acetol: Blood, acetol, methyl alcohol, and formaldehyde administration, effect, *Grant*, 93

Acetone: Determination, *Lester and Greenberg*, 903

Acetyl phosphate: Production, *Stadtman and Barker*, 1039

Aconite: Alkaloids, *Huebner and Jacobs*, 1001

Adenine: Desoxypentose nucleic acid, incorporation, *Brown, Petermann, and Furst*, 1043
Pentose nucleic acid, incorporation, *Brown, Petermann, and Furst*, 1043

Adenosinetriphosphatase: Muscle, magnesium-activated, *Kielley and Meyerhof*, 387

Adenosine triphosphate: Purified, preparation, *Dounce, Rothstein, Beyer, Meier, and Freer*, 361

Adrenalectomy: Tissue nitrogen, isotopic, effect, *White, Hoberman, and Szego*, 1049

Alanine: β-, utilization, pantothenic acid relation, *King and Cheldelin*, 273
DL-, phosphatase, intestine, bone, and kidney, effect, *Bodansky*, 465
Phenyl-. *See* Phenylalanine
Radioactive carbon-labeled, liver protein, incorporation, dinitrophenol effect, *Frantz, Zamecnik, Reese, and Stephenson*, 773
β-2-Thienyl-, optical isomers, microbial growth, effect, *Ferger and du Vigneaud*, 241

Albumin: Blood serum, organic anions, combination, *Teresi and Luck*, 653
— —, — —, combination, equilibrium dialysis, *Teresi and Luck*, 653
— —, tobacco mosaic virus and, interaction, *Lauffer*, 481

Alcohol: Methyl. *See* Methyl alcohol

Alkaloid(s): Aconite, *Huebner and Jacobs*, 1001

Alloxan: Diabetes, palmitic acid labeled with radioactive carbon, glucose from, *Chaikoff, Lerner, Entenman, and Dauben*, 1045

Amino acid(s): Determination, *Clostridium perfringens* use, *Boyd, Logan, and Tytell*, 1027
Escherichia coli growth, specificity, *Kobayashi, Fling, and Fox*, 391
Monomethyl-L-, demethylation, oxidative, *Ling and Tung*, 643
Niacin-tryptophan-deficient diets, growth, effect, *Hankes, Henderson, Brickson, and Elvehjem*, 873
Sulfur-containing, *Escherichia coli* mutant strains, utilization, *Simmonds*, 717

Amino group(s): Phenol, imidazole, or indole groups, cross-linking, *Fraenkel-Conrat and Olcott*, 827

Androgen(s): Estrogens, separation, *Friedgood, Garst, and Haagen-Smit*, 523

Anemia: Antipernicious, extracts, tyrosine metabolism and, scurvy, relation, *Sealock and Lepow*, 763

Antibody: Lymphoid tissue, release, *Roberts, Adams, and White*, 379

Apparatus: Van Slyke, blood gas, microvolumetric, *Whiteley*, 947

Arginase: Cell nucleus, *Dounce and Beyer*, 859

Arginine: Bacterial growth, effect, *Volcani and Snell*, 893

Ascorbic acid: Dehydro-*l*-, determination, 2,4-dinitrophenylhydrazine method, *Roe, Mills, Oesterling, and Damron*, 201
l-, determination, 2,4-dinitrophenylhydrazine method, *Roe, Mills, Oesterling, and Damron*, 201

Atisine: Iso-, oxidation, *Huebner and Jacobs*, 1001
Oxidation, *Huebner and Jacobs*, 1001

B

Bacillus: *See also Lactobacillus*

Bacteria: Growth, canavanine and arginine, effect, *Volcani and Snell*, 893
—, measurement, factors affecting, *Toennies and Gallant*, 451
Viruses, synthesis, *Cohen*, 281, 295
See also Acetobacter, Clostridium, Escherichia, Meningococcus, Staphylococcus, Streptococcus

Bacterimetric studies: *Toennies and Gallant*, 451

Bacteriophage(s): Desoxyribonucleic acid, phosphorus origin, *Cohen*, 295
Escherichia coli infected with, nucleic acid and protein synthesis, *Cohen*, 281

Barbituric acid: Thio-, lipide oxidation products and, reaction, *Bernheim, Bernheim, and Wilbur*, 257

Benzylpenicillin: Radioactive sulfur-containing, isolation, counter-current distribution use, *Sato, Barry, and Craig*, 217

Blood: Acetol, acetol, methyl alcohol, and formaldehyde administration, effect, *Grant*, 93
Coagulation, inhibitor, *Overman and and Wright*, 759
Gas, Van Slyke microvolumetric apparatus, *Whitcley*, 947
Group A-specific substance, gastric mucosa, *Holzman and Niemann*, 305
Hyaluronidase inhibitor, *Dorfman, Ott, and Whitney*, 621
Salicylate, determination, fluorophotometric, *Saltzman*, 399

Blood cell: Red, pyrophosphatase, *Naganna and Narayana menon*, 501

Blood plasma: Iodide, inorganic, thyroid function, relation, *Wolff and Chaikoff*, 555

Blood serum: Albumin, organic anions, combination, *Teresi and Luck*, 653
—, — —, —, equilibrium dialysis, *Teresi and Luck*, 653
—, tobacco mosaic virus and, interaction, *Lauffer*, 481

Blood serum—*continued:*
Cephalin, *Sinclair*, 343, 355
α-Estradiol solubility, *Bischoff and Pilhorn*, 663
Iron, determination, micro-, *Burch, Lowry, Bessey, and Berson*, 791
Lecithin, *Sinclair*, 343, 355
Progesterone solubility, *Bischoff and Pilhorn*, 663
Proteins, injury effect, *Gjessing, Ludewig, and Chanutin*, 683
Sphingomyelin, *Sinclair*, 343, 355
Testosterone solubility, *Bischoff and Pilhorn*, 663
Vasoconstrictor, purification, *Rapport, Green, and Page*, 735

Blood sugar: Arteriovenous differences, *Somogyi*, 189, 597
See also Hyperglycemia, Hypoglycemia

Bone: Phosphatase, DL-alanine, L-glutamic acid, L-lysine, and L-histidine, effect, *Bodansky*, 465

C

Calcium: Prothrombin, effect, *Ware and Seegers*, 565

Canavanine: Bacterial growth, effect, *Volcani and Snell*, 893
Neurospora growth, effect, *Horowitz and Srb*, 371

Carbamyl-L-glutamic acid: Citrulline synthesis, rôle, *Cohen and Grisolia*, 389

Carbinol: Quinolylpiperidyl-, dissociation exponents, *Irvin and Irvin*, 577

Carbohydrate(s): Metabolism, shock effect, *Goranson, Hamilton, and Haist*, 1

Carbon: Radioactive, alanine labeled with, liver protein, incorporation, dinitrophenol effect, *Frantz, Zamecnik, Reese, and Stephenson*, 773
—, palmitic acid labeled with, glucose from, alloxan diabetes, *Chaikoff, Lerner, Entenman, and Dauben*, 1045
—, DL-tyrosine labeled with, melanosarcoma, distribution, *Reid and Jones*, 427

Carbon dioxide: Fixation, dicarboxylic acid biosynthesis, rôle, *Ochoa, Mehler, and Kornberg,* 979
—, tricarboxylic acid synthesis, rôle, *Ochoa,* 115
Ochoa and Weisz-Tabori, 123
Ochoa, 133
—, — acids, enzymatic mechanisms, *Ochoa,* 133
Carboxylase: Oxalosuccinic, *Ochoa and Weisz-Tabori,* 123
Carboxylic acid(s): Di-, biosynthesis, carbon dioxide fixation rôle, *Ochoa, Mehler, and Kornberg,* 979
Pyrrolidone-, polarimetry, *Kibrick,* 845
Tri-, biosynthesis, carbon dioxide fixation rôle, *Ochoa,* 115
Ochoa and Weisz-Tabori, 123
Ochoa, 133
—, carbon dioxide fixation, enzymatic mechanisms, *Ochoa,* 133
Cell: Nucleus, arginase, *Dounce and Beyer,* 859
Cephalin: Blood serum, *Sinclair,* 343
Chick: Growth factor, manure, *Bird, Rubin, and Groschke,* 611
— —, —, stability and solubility, *Bird, Rubin, and Groschke,* 611
—, vitamin B_{12}, crystalline, effect, *Ott, Rickes, and Wood,* 1047
Cholesterol: -High maternal diet, fetus vitamin A, effect, *Williamson,* 631
Cholinesterase: *Nachmansohn, Rothenberg, and Feld,* 247
Inhibition, kinetics, *Nachmansohn, Rothenberg, and Feld,* 247
Chymotrypsin: Enzyme, intracellular, relation, *Gutmann and Fruton,* 851
Citrulline: Synthesis, carbamyl-L-glutamic acid rôle, *Cohen and Grisolia,* 389
Clostridium perfringens: Amino acid determination, use, *Boyd, Logan, and Tytell,* 1027
Growth requirements, *Boyd, Logan, and Tytell,* 1013
Coagulation: Blood, inhibitor, *Overman and Wright,* 759
Coenzyme: A, determination and distribution, *Kaplan and Lipmann,* 37
—, pantothenic acid, determination, *Hegsted and Lipmann,* 89
Copper: Radioactive, fate, cattle, *Comar, Davis, and Singer,* 905
Cystine: Determination, spectrophotometric, Folin, reducers, computation, *Winegard and Toennies,* 45
Cytidylic acid: Nucleic acid, yeast, preparation, *Loring, Roll, and Pierce,* 729

D

Dehydro-*l*-ascorbic acid: Determination, 2,4-dinitrophenylhydrazine method, *Roe, Mills, Oesterling, and Damron,* 201
Desoxypentose nucleic acid: Adenine incorporation, *Brown, Petermann, and Furst,* 1043
Desoxyribonucleic acid(s): Bacteriophages, phosphorus origin, *Cohen,* 295
Diabetes: Alloxan, palmitic acid labeled with radioactive carbon, glucose from, *Chaikoff, Lerner, Entenman, and Dauben,* 1045
Diammonium uridylate: Nucleic acid, yeast, preparation, *Loring, Roll, and Pierce,* 729
Diaphragm: Glycogen synthesis, hypophysectomy effect, *Perlmutter and Greep,* 915
— uptake, hypophysectomy effect, *Perlmutter and Greep,* 915
Krahl and Park, 939
Dicarboxylic acid(s): Biosynthesis, carbon dioxide fixation rôle, *Ochoa, Mehler, and Kornberg,* 979
Dihydrodiphosphopyridine: Nucleotide, oxygen and, electron transport, coupled phosphorylation, *Friedkin and Lehninger,* 757
Diketo-*l*-gulonic acid: Determination, 2,4-dinitrophenylhydrazine method, *Roe, Mills, Oesterling, and Damron,* 201
Dimethyl-β-propiothetin: Methyl donor, *Maw and du Vigneaud,* 381

Dimethylthetin: Methyl donor, *du Vigneaud, Moyer, and Chandler*, 477
Dinitrophenol: Liver protein, radioactive carbon-labeled alanine incorporation, effect, *Frantz, Zamecnik, Reese, and Stephenson*, 773
Dinitrophenylhydrazine: 2,4-, diketo-*l*-gulonic acid, dehydro-*l*-ascorbic acid, and *l*-ascorbic acid determination, use in, *Roe, Mills, Oesterling, and Damron*, 201
Distillers' soluble(s): Growth factor, *Novak and Hauge*, 235
— —, isolation, *Novak and Hauge*, 647
Distribution studies: *Barry, Sato, and Craig*, 209
Sato, Barry, and Craig, 217
Barry, Sato, and Craig, 221

E

Embryo: Chick, nicotinic acid synthesis, tryptophan relation, *Schweigert, German, and Garber*, 383
Enzyme(s): Carbon dioxide fixation, tricarboxylic acids, mechanisms, *Ochoa*, 133
Inhibition, sulfhydryl reagents, mechanism, *Singer*, 11
Isocitrate-pyruvate oxidation-reduction, mechanism, *Mehler, Kornberg, Grisolia, and Ochoa*, 961
Kinetics, colorimetric ninhydrin determination, use in study, *Schwert*, 411
Liver, *l*-malic acid decarboxylation, effect, *Ochoa, Mehler, and Kornberg*, 979
Malate-pyruvate oxidation-reduction, mechanism, *Mehler, Kornberg, Grisolia, and Ochoa*, 961
Myrothecium verrucaria, *Saunders, Siu, and Genest*, 697
Proteolytic, tissue, *Gutmann and Fruton*, 851
See also Adenosinetriphosphatase, Arginase, Carboxylase, Cholinesterase, Chymotrypsin, Hyaluronidase, Oxidase, Phosphatase, Pyrophosphatase
Erythrocyte(s): *See* Blood cell, red
Erythropoiesis: Fetus, sulfonamide in maternal diet, effect, *Williamson and Appel*, 769
Escherichia coli: B, bacteriophage-infected, nucleic acid and protein synthesis, *Cohen*, 281
Growth, amino acid specificity, *Kobayashi, Fling, and Fox*, 391
Mutant strains, proline derivatives, utilization, *Simmonds and Fruton*, 705
— —, sulfur-containing amino acids, utilization, *Simmonds*, 717
Protein synthesis, effect, *Melchior, Mellody, and Klotz*, 81
Esterase: Cholin-. *See* Cholinesterase
Estradiol: α-, blood serum solubility, *Bischoff and Pilhorn*, 663
—, protein solution solubility, *Bischoff and Pilhorn*, 663
—, salt solution solubility, *Bischoff and Pilhorn*, 663
Estrone-, fraction, estriol partition, *Friedgood, Garst, and Haagen-Smit*, 523
Estriol: Estrone-estradiol fraction, partition, *Friedgood, Garst, and Haagen-Smit*, 523
Estrogen(s): Androgens, separation, *Friedgood, Garst, and Haagen-Smit*, 523
Determination, micro-, spectrophotometric, *Friedgood, Garst, and Haagen-Smit*, 523
Estrone: -Estradiol fraction, estriol partition, *Friedgood, Garst, and Haagen-Smit*, 523

F

Fasting: Tissue nitrogen, isotopic, effect, *White, Hoberman, and Szego*, 1049
Fatty acid(s): Determination, chromatographic, *Peterson and Johnson*, 775
Fetus: Erythropoiesis, sulfonamide in maternal diet, effect, *Williamson and Appel*, 769
Vitamin A, cholesterol-high maternal diet, effect, *Williamson*, 631
Folic acid: Liver, *Olson, Fager, Burris, and Elvehjem*, 319

Formaldehyde: Blood acetol, administration effect, *Grant*, 93
-Protein reaction, *Fraenkel-Conrat and Olcott*, 827
Fungus: 2-Methoxy-1,4-naphthoquinone action, *Little, Sproston, and Foote*, 335

See also Myrothecium

G

Gas: Blood, Van Slyke microvolumetric apparatus, *Whiteley*, 947
Glucose: Extrahepatic, assimilation, alimentary hyperglycemia, relation, *Somogyi*, 189
—, —, hypoglycemia, relation, *Somogyi*, 597
Palmitic acid conversion to, radioactive carbon-labeled, alloxan diabetes, *Chaikoff, Lerner, Entenman, and Dauben*, 1045
Phosphorylation, meningococcal endotoxin effect, *Kun*, 761
Uptake, diaphragm, hypophysectomy effect, *Perlmutter and Greep*, 915
Krahl and Park, 939
Glutamic acid: Carbamyl-L-, citrulline synthesis, rôle, *Cohen and Grisolia*, 389
L-, phosphatase, intestine, bone, and kidney, effect, *Bodansky*, 465
Polarimetry, *Kibrick*, 845
Pteroyl-. *See* Pteroylglutamic acid
Glycine: Hemoglobin biosynthesis, use, *Grinstein, Kamen, and Moore*, 767
Glycogen: Synthesis, diaphragm, hypophysectomy effect, *Perlmutter and Greep*, 915
Growth: Bacteria, canavanine and arginine, effect, *Volcani and Snell*, 803
—, measurement, factors affecting, *Toennies and Gallant*, 451
Biochemical transformations, *Harding and Shive*, 743
Chick, vitamin B_{12}, crystalline, effect, *Ott, Rickes, and Wood*, 1047
Clostridium perfringens, *Boyd, Logan, and Tytell*, 1013
Escherichia coli, amino acid specificity, *Kobayashi, Fling, and Fox*, 391
Factor, *Colio and Babb*, 405
Growth—*continued:*
Factor, chick, manure, *Bird, Rubin, and Groschke*, 611
—, —, —, stability and solubility, *Bird, Rubin, and Groschke*, 611
—, distillers' solubles, *Novak and Hauge*, 647
—, — —, isolation, *Novak and Hauge*, 235
Methionine-deficient diet, DL-homoserine effect, *Armstrong and Binkley*, 889
Methionine-leucine relation, *Harding and Shive*, 743
Microbial, β-2-thienylalanine effect, *Ferger and du Vigneaud*, 241
Neurospora, canavanine, effect, *Horowitz and Srb*, 371
Niacin - tryptophan - deficient diets, amino acids, effect, *Hankes, Henderson, Brickson, and Elvehjem*, 873
D-Tyrosine effect, *Bubl and Butts*, 637
Gulonic acid: Diketo-*l*-, determination, 2,4-dinitrophenylhydrazine method, *Roe, Mills, Oesterling, and Damron*, 201

H

Hemoglobin: Biosynthesis, glycine use, *Grinstein, Kamen, and Moore*, 767
Heparin: Preparations, inhomogeneity, *Jensen, Snellman, and Sylvén*, 265
Hesperidin: Hyaluronidase, effect, *Beiler and Martin*, 31
Histidine: L-, phosphatase, intestine, bone, and kidney, effect, *Bodansky*, 465
Homoserine: DL-, methionine-deficient diet, growth, effect, *Armstrong and Binkley*, 889
Hormone(s): Steroid, biological systems, *Bischoff and Pilhorn*, 663
Hyaluronidase: Blood, inhibitor, *Dorfman, Ott, and Whitney*, 621
Hesperidin effect, *Beiler and Martin*, 31
Hydroxy-L-proline: Oxidation, periodate effect, *Carter and Loo*, 723

Hyperglycemia: Alimentary, glucose, extrahepatic, assimilation, relation, *Somogyi*, 189
Hypoglycemia: Glucose, extrahepatic, assimilation, *Somogyi*, 597
Hypophysectomy: Diaphragm glucose uptake, effect, *Perlmutter and Greep*, 915
Krahl and Park, 939
—,glycogen synthesis, effect, *Perlmutter and Greep*, 915

I

Imidazole: Amino groups, cross-linking, *Fraenkel-Conrat and Olcott*, 827
Indole group(s): Amino groups, cross-linking, *Fraenkel-Conrat and Olcott*, 827
Inhibition: Analysis, limitations, *Hitchings, Elion, and VanderWerff*, 1037
Injury: Blood serum proteins, effect, *Gjessing, Ludewig, and Chanutin*, 683
Inositol: Isomers, oxidation, *Acetobacter suboxydans* rôle, *Magasanik and Chargaff*, 173
Oxidation, *Acetobacter suboxydans, Carter, Belinskey, Clark, Flynn, Lytle, McCasland, and Robbins*, 415
Intestine: Phosphatase, DL-alanine, L-glutamic acid, L-lysine, and L-histidine, effect, *Bodansky*, 465
Iodide: Inorganic, blood plasma, thyroid function, relation, *Wolff and Chaikoff*, 555
Iron: Blood serum, determination, micro-, *Burch, Lowry, Bessey, and Berson*, 791
Isoatisine: Oxidation, *Huebner and Jacobs*, 1001
Isocitrate: -Pyruvate oxidation-reduction, enzymatic mechanism, *Mehler, Kornberg, Grisolia, and Ochoa*, 961

K

Keto acid(s): β-, decarboxylation, spectrophotometry, *Kornberg, Ochoa, and Mehler*, 159
Ketone bodies: Determination, *Lester and Greenberg*, 903
Kidney: Phosphatase, DL-alanine, L-glutamic acid, L-lysine, and L-histidine, effect, *Bodansky*, 465
See also Nephrectomy

L

Lactobacillus casei: Nutrition, factors, *Daniel, Scott, Heuser, and Norris*, 71
Lecithin: Blood serum, *Sinclair*, 343
Leucine: Growth, methionine relation, *Harding and Shive*, 743
Liver homogenate peptide, relation, *Borsook, Deasy, Haagen-Smit, Keighley, and Lowy*, 1041
Lipide(s): Oxidation products, thiobarbituric acid and, reaction, *Bernheim, Bernheim, and Wilbur*, 257
Liver: Enzyme, *l*-malic acid decarboxylation, effect, *Ochoa, Mehler, and Kornberg*, 979
Folic acid, *Olson, Fager, Burris, and Elvehjem*, 319
Homogenate peptide, isolation, *Borsook, Deasy, Haagen-Smit, Keighley, and Lowy*, 1041
— —, leucine turnover, *Borsook, Deasy, Haagen-Smit, Keighley, and Lowy*, 1041
Protein, radioactive carbon-labeled alanine incorporation, effect, *Frantz, Zamecnik, Reese, and Stephenson*, 773
Lymphoid tissue: Antibody, release, *Roberts, Adams, and White*, 379
Lysine: L-, phosphatase, intestine, bone, and kidney, effect, *Bodansky*, 465
Synthesis, *Neurospora, Mitchell and Houlahan*, 883

M

Magnesium: Muscle adenosinetriphosphatase activation, relation, *Kielley and Meyerhof*, 387
Malaria: *See also* SN-3294, SN-13276
Malate: -Pyruvate oxidation-reduction, enzymatic mechanism, *Mehler, Kornberg, Grisolia, and Ochoa*, 961

Malic acid: *l-*, decarboxylation, liver enzyme effect, *Ochoa, Mehler, and Kornberg,* 979
Manure: Chick growth factor, *Bird, Rubin, and Groschke,* 611
— — —, stability and solubility, *Bird, Rubin, and Groschke,* 611
Melanosarcoma: DL-Tyrosine labeled with radioactive carbon, distribution, *Reid and Jones,* 427
Meningococcus: Endotoxin, glucose phosphorylation, effect, *Kun,* 761
Methionine: -Deficient diet, DL-homoserine, growth, effect, *Armstrong and Binkley,* 889
Growth, leucine relation, *Harding and Shive,* 743
Oxy-, lipotropic activity and toxicity, *Shaffer and Critchfield,* 489
Methoxinine: Lipotropic activity and toxicity, *Shaffer and Critchfield,* 489
Methoxy - 1,4 - naphthoquinone: 2-, naturally occurring, isolation and antifungal action, *Little, Sproston, and Foote,* 335
Methyl alcohol: Blood acetol, administration effect, *Grant,* 93
Methyl group: Donor, dimethyl-β-propiothetin, *Maw and du Vigneaud,* 381
—, dimethylthetin, *du Vigneaud, Moyer, and Chandler,* 477
Mold: *See also Neurospora*
Monomethyl-L-amino acid(s): Demethylation, oxidative, *Ling and Tung,* 643
Mosaic: Tobacco, virus, blood serum albumin and, interaction, *Lauffer,* 481
Muscle: Adenosinetriphosphatase, magnesium-activated, *Kielley and Meyerhof,* 387
Myosin: Birefringence of flow, *Binkley,* 385
Myrothecium verrucaria: Enzyme, *Saunders, Siu, and Genest,* 697

N

Naphthoquinone: 2 - Methoxy - 1,4-, naturally occurring, isolation and antifungal action, *Little, Sproston, and Foote,* 335
Nephrectomy: Nitrogen metabolism study, use, *Engel, Pentz, and Engel,* 99
Neurospora: Growth, canavanine effect, *Horowitz and Srb,* 371
Lysine synthesis, *Mitchell and Houlahan,* 883
Niacin: Tryptophan-, transformation, pyridoxine deficiency, effect, *Ling, Hegsted, and Stare,* 803
-Tryptophan-deficient diets, amino acids, growth effect, *Hankes, Henderson, Brickson, and Elvehjem,* 873
Nicotinic acid: Synthesis, chick embryo, tryptophan relation, *Schweigert, German, and Garber,* 383
Ninhydrin: Determination, colorimetric, enzyme kinetics, use in study, *Schwert,* 411
Nitrogen: Isotopic, tissue, adrenalectomy and fasting effect, *White, Hoberman, and Szego,* 1049
Metabolism, nephrectomy effect, *Engel, Pentz, and Engel,* 99
Nucleic acid: Desoxypentose, adenine incorporation, *Brown, Petermann, and Furst,* 1043
Desoxyribo-. *See* Desoxyribonucleic acid
Pentose, adenine incorporation, *Brown, Petermann, and Furst,* 1043
Synthesis, *Escherichia coli* B, bacteriophage-infected, *Cohen,* 281
Yeast, cytidylic acid and diammonium uridylate preparation, *Loring, Roll, and Pierce,* 729
Nucleotide: Triphosphopyridine, chemical constitution, *Kornberg,* 1051
Nucleotide pyrophosphatase: Chemical constitution, *Kornberg,* 1051
Nucleus: Cell, arginase, *Dounce and Beyer,* 859
Nutrition: *Lactobacillus casei,* factors, *Daniel, Scott, Heuser, and Norris,* 71

O

Oxalosuccinic acid: Preparation and properties, *Ochoa*, 115

Oxalosuccinic carboxylase: *Ochoa and Weisz-Tabori*, 123

Oxidase: Xanthine, related enzymes and, 6-pteridyl aldehyde effect, *Kalckar, Kjeldgaard, and Klenow*, 771

Oxygen: Dihydrodiphosphopyridine nucleotide and, electron transport, coupled phosphorylation, *Friedkin and Lehninger*, 757

Oxymethionine: Lipotropic activity and toxicity, *Shaffer and Critchfield*, 489

P

Palmitic acid: Radioactive carbon-labeled, glucose from, alloxan diabetes, *Chaikoff, Lerner, Entenman, and Dauben*, 1045

Pamaquine: Determination, fluorometric, *Irvin and Irvin*, 589

Dissociation exponents, *Irvin and Irvin*, 577

Pantothenic acid: *King and Cheldelin*, 273

β-Alanine utilization, relation, *King and Cheldelin*, 273

Coenzyme A, determination, *Hegsted and Lipmann*, 89

Propionic acid utilization, relation, *King and Cheldelin*, 273

Penicillin: Benzyl-, radioactive sulfur-containing, isolation, counter-current distribution use, *Sato, Barry, and Craig*, 217

Crystalline, purity, counter-current distribution use, *Barry, Sato, and Craig*, 221

Pentose nucleic acid: Adenine incorporation, *Brown, Petermann, and Furst*, 1043

Peptide: Liver homogenate, isolation, *Borsook, Deasy, Haagen-Smit, Keighley, and Lowy*, 1041

— —, leucine turnover, *Borsook, Deasy, Haagen-Smit, Keighley, and Lowy*, 1041

Periodate: Hydroxy-L-proline oxidation by, *Carter and Loo*, 723

Phenol: Amino groups, cross-linking, *Fraenkel-Conrat and Olcott*, 827

Phenylalanine: L-, decarboxylation, *Streptococcus faecalis* rôle, *McGilvery and Cohen*, 813

Phosphatase: Adenosinetri-, muscle, magnesium-activated, *Kielley and Meyerhof*, 387

Bone, DL-alanine, L-glutamic acid, L-lysine, and L-histidine, effect, *Bodansky*, 465

Intestine, DL-alanine, L-glutamic acid, L-lysine, and L-histidine, effect, *Bodansky*, 465

Kidney, DL-alanine, L-glutamic acid, L-lysine, and L-histidine, effect, *Bodansky*, 465

Pyro-, blood cell, red, *Naganna and Narayana menon*, 501

—, nucleotide, chemical constitution, *Kornberg*, 1051

Phosphate(s): Metabolism, shock effect, *Goranson, Hamilton, and Haist*, 1

Phosphatidyl serine: Chemical constitution, *Folch*, 439

Phosphorus: Bacteriophage desoxyribonucleic acids, origin, *Cohen*, 295

Phosphorylation: Coupled, dihydrodiphosphopyridine nucleotide and oxygen electron transport, *Friedkin and Lehninger*, 757

Glucose, meningococcal endotoxin effect, *Kun*, 761

Pituitary: *See also* Hypophysectomy

Potassium: Isotopes, biological material, distribution, *Mullins and Zerahn*, 107

Pregnancy: Sulfonamide in diet, erythropoiesis in fetus, effect, *Williamson and Appel*, 769

Pregnen-3(β)-ol-20-one: 5-, testis extract, isolation and identification, *Haines, Johnson, Goodwin, and Kuizenga*, 925

Progesterone: Blood serum solubility, *Bischoff and Pilhorn,* 663
Protein solution solubility, *Bischoff and Pilhorn,* 663
Salt solution solubility, *Bischoff and Pilhorn,* 663
Proline: Derivatives, *Escherichia coli* mutant strains, utilization, *Simmonds and Fruton,* 705
Hydroxy-L-, oxidation, periodate effect, *Carter and Loo,* 723
Propionic acid: Utilization, pantothenic acid relation, *King and Cheldelin,* 273
Protein(s): Blood serum, injury effect, *Gjessing, Ludewig, and Chanutin,* 683
-Formaldehyde reaction, *Fraenkel-Conrat and Olcott,* 827
Liver, radioactive carbon-labeled alanine incorporation, effect, *Frantz, Zamecnik, Reese, and Stephenson,* 773
Solutions, testosterone, progesterone, and α-estradiol solubility, *Bischoff and Pilhorn,* 663
Synthesis, *Escherichia coli* B, bacteriophage-infected, *Cohen,* 281
—, — — effect, *Melchior, Mellody, and Klotz,* 81
Proteolysis: Enzymes, tissue, *Gutmann and Fruton,* 851
Prothrombin: Calcium effect, *Ware and Seegers,* 565
Purification, *Ware and Seegers,* 565
Thrombin effect, *Ware and Seegers,* 565
Thromboplastin effect, *Ware and Seegers,* 565
Pteridyl aldehyde: 6-, xanthine oxidase and related enzymes, effect, *Kalckar, Kjeldgaard, and Klenow,* 771
Pteroylglutamic acid: Analogues, *Woolley and Pringle,* 327
Pyrimidine derivatives, relation, *Hitchings, Elion, VanderWerff, and Falco,* 765
Pyridine: Dihydrodiphospho-, nucleotide, oxygen and, electron transport, coupled phosphorylation, *Friedkin and Lehninger,* 757
Pyridoxine: Deficiency, tryptophan-niacin transformation, effect, *Ling, Hegsted, and Stare,* 803
Displacement, *Martin, Avakian, and Moss,* 495
Pyrimidine: Derivatives, pteroylglutamic acid, relation, *Hitchings, Elion, VanderWerff, and Falco,* 765
Pyrophosphatase: Blood cell, red, *Naganna and Narayana menon,* 501
Nucleotide, chemical constitution, *Kornberg,* 1051
Pyrrolidonecarboxylic acid: Polarimetry, *Kibrick,* 845
Pyruvate: Isocitrate-, oxidation-reduction, enzymatic mechanism, *Mehler, Kornberg, Grisolia, and Ochoa,* 961
Malate-, oxidation-reduction, enzymatic mechanism, *Mehler, Kornberg, Grisolia, and Ochoa,* 961

Q

Quinine: Dissociation exponents, *Irvin and Irvin,* 577
Quinolylpiperidylcarbinol: Dissociation exponents, *Irvin and Irvin,* 577

S

Salicylate: Blood, determination, fluorophotometric, *Saltzman,* 399
Salt: Solutions, testosterone, progesterone, and α-estradiol solubility, *Bischoff and Pilhorn,* 663
Sarcoma: Melano-, DL-tyrosine labeled with radioactive carbon, distribution, *Reid and Jones,* 427
Scurvy: Antipernicious anemia extracts and tyrosine metabolism, relation, *Sealock and Lepow,* 763
Serine: Homo-. *See* Homoserine
Phosphatidyl, chemical constitution, *Folch,* 439
Shock: Carbohydrate metabolism, effect, *Goranson, Hamilton, and Haist,* 1
Phosphate metabolism, effect, *Goranson, Hamilton, and Haist,* 1

SN-3294: Determination, fluorometric, *Irvin and Irvin*, 589
SN-13276: Determination, fluorometric, *Irvin and Irvin*, 589
Sphingomyelin: Blood serum, *Sinclair*, 343, 355
Staphylococcus: Toxin, solubility, *Wittler and Pillemer*, 23
Steroid(s): Hormones, biological systems, *Bischoff and Pilhorn*, 663
Stomach: Mucosa, blood group A-specific substance, *Holzman and Niemann*, 305
Streptococcus faecalis: L-Phenylalanine decarboxylation, rôle, *McGilvery and Cohen*, 813
Streptomycin: Counter-current distribution, *Titus and Fried*, 57
Tautomerism, *Titus and Fried*, 57
Succinic: Oxalo-, carboxylase, *Ochoa and Weisz-Tabori*, 123
Succinic acid: Oxalo-, preparation and properties, *Ochoa*, 115
Sugar: Blood. *See* Blood sugar
Sulfhydryl reagent(s): Enzyme inhibition, mechanism, *Singer*, 11
Sulfonamide: Maternal diet, erythropoiesis in fetus, effect, *Williamson and Appel*, 769
Sulfur: -Containing amino acids, *Escherichia coli* mutant strains, utilization, *Simmonds*, 717
Radioactive, benzylpenicillin containing, isolation, counter-current distribution use, *Sato, Barry, and Craig*, 217

T

Testis: Extract, *Haines, Johnson, Goodwin, and Kuizenga*, 925
—, 5-pregnen-3(β)-ol-20-one isolation and identification, *Haines, Johnson, Goodwin, and Kuizenga*, 925
Testosterone: Blood serum solubility, *Bischoff and Pilhorn*, 663
Protein solution solubility, *Bischoff and Pilhorn*, 663
Salt solution solubility, *Bischoff and Pilhorn*, 663
Thetin: Dimethyl-, methyl donor, *du Vigneaud, Moyer, and Chandler*, 477
Dimethyl-β-propio-, methyl donor, *Maw and du Vigneaud*, 381
Thienylalanine: β-2-, optical isomers, microbial growth, effect, *Ferger and du Vigneaud*, 241
Thiobarbituric acid: Lipide oxidation products and, reaction, *Bernheim, Bernheim, and Wilbur*, 257
Thrombin: Pro-. *See* Prothrombin
Prothrombin, effect, *Ware and Seegers*, 565
Thromboplastin: Prothrombin, effect, *Ware and Seegers*, 565
Thyroid: Function, blood plasma inorganic iodide relation, *Wolff and Chaikoff*, 555
Tobacco: Mosaic virus, blood serum albumin and, interaction, *Lauffer*, 481
Toxin(s): Immunochemistry, *Wittler and Pillemer*, 23
Staphylococcus, solubility, *Wittler and Pillemer*, 23
Toxoid(s): Immunochemistry, *Wittler and Pillemer*, 23
Tricarboxylic acid(s): Biosynthesis, carbon dioxide fixation rôle, *Ochoa*, 115
Ochoa and Weisz-Tabori, 123
Ochoa, 133
Carbon dioxide fixation, enzymatic mechanisms, *Ochoa*, 133
Triphosphopyridine nucleotide: Chemical constitution, *Kornberg*, 1051
Trypsin: Chymo-. *See* Chymotrypsin
Tryptophan: Chick embryo nicotinic acid synthesis, relation, *Schweigert, German, and Garber*, 383
Metabolism, vitamin B_6 rôle, *Junqueira and Schweigert*, 605
-Niacin transformation, pyridoxine deficiency, effect, *Ling, Hegsted, and Stare*, 803
-Niacin-deficient diets, amino acids, effect, *Hankes, Henderson, Brickson, and Elvehjem*, 873
Tyrosine: D-, growth, effect, *Bubl and Butts*, 637

Tyrosine—*continued:*
DL-, radioactive carbon labeled with, melanosarcoma, distribution, *Reid and Jones*, 427
Metabolism, antipernicious anemia extracts and, scurvy, relation, *Sealock and Lepow*, 763

V

Van Slyke: Apparatus, blood gas, microvolumetric, *Whiteley*, 947
Vasoconstrictor: Blood serum, purification, *Rapport, Green, and Page*, 735
Virus: Bacterial, synthesis, *Cohen*, 281, 295
Tobacco mosaic, blood serum albumin and, interaction, *Lauffer*, 481
Vitamin(s): A, fetus, cholesterol-high maternal diet, effect, *Williamson*, 631
Vitamin(s)—*continued:*
A, utilization, media, *Halpern and Biely*, 817
B_6, tryptophan metabolism, rôle, *Junqueira and Schweigert*, 605
B_{12}, crystalline, chick growth, effect, *Ott, Rickes, and Wood*, 1047
B_{13}, distillers' solubles, growth, effect, *Novak and Hauge*, 647

X

Xanthine: Oxidase, related enzymes and, 6-pteridyl aldehyde effect, *Kalckar, Kjeldgaard, and Klenow*, 771

Y

Yeast: Nucleic acid, cytidylic acid and diammonium uridylate preparation, *Loring, Roll, and Pierce*, 729